

REMARKS

I. Introduction

Claims 1-22, 25-29 are pending in this application. By this amendment, claims 1, 12 and 22 are amended to clarify the subject matter of the invention and to more clearly distinguish over the references of record and claims 30-41 are cancelled without prejudice or disclaimer. No new matter has been introduced by this amendment. Reconsideration, in view of the forgoing amendments and following remarks is respectfully requested.

II. Claim Rejections

Claims 1-22, 25-36 and 38-41 stand rejected under 35 U.S.C. § 103(a) as unpatentable over published U.S. Patent Application No. 2002/0026528 to Lo (hereinafter “the Lo application”) in view of U.S. Patent No. 6,711,162 to Ortega et al. (hereinafter “the Ortega patent”). As noted above, claims 30-41 have been cancelled. However, as the rejection applies to the remaining claims, Applicants respectfully traverse.

Regarding independent claim 1, Applicants respectfully submit that the combination of applied references fails to disclose or even suggest a method for providing data from a client to an access concentrator using a gateway, the method comprising the steps of receiving, at a gateway, a frame including data intended for receipt by an access concentrator that supports PPPoE, wherein if the frame is a non-PPPoE frame from a client that does not support PPPoE, encapsulating, at the gateway, the first non-PPPoE frame to generate a PPPoE frame, wherein the PPPoE frame includes the data intended for receipt by the access concentrator, and providing the PPPoE frame to the access concentrator from the gateway thereby establishing a virtual PPPoE session for the client that does not support PPPoE,

otherwise, if the frame is a PPPoE frame from a client supporting PPPoE, forwarding the frame from the gateway to the access concentrator without additional gateway processing, as recited in amended claim 1.

Similarly, regarding independent claim 12, Applicants respectfully submit that the combination of applied references fails to disclose or even suggest a method for providing data from an access concentrator to a client using a gateway, the method comprising the steps of receiving, at a gateway, a PPPoE frame from the access concentrator, the PPPoE frame including data intended for receipt by the client, wherein if the data is intended for a non-PPPoE client that does not support PPPoE, deencapsulating, at the gateway, the PPPoE frame to generate a non-PPPoE frame, wherein the non-PPPoE frame includes the data intended for receipt by the client and providing the non-PPPoE frame to the non-PPPoE client from the gateway; otherwise, if the PPPoE frame is intended for a PPPoE client that supports PPPoE, forwarding the PPPoE frame from the gateway to the client without additional gateway processing, as recited in amended claim 12.

Likewise, regarding independent claim 22, Applicants respectfully submit that the combination of applied references fails to disclose or even suggest a method for transporting data among clients and access concentrators, the method comprising the steps of receiving, at a bridge, a first frame having a PPPoE format from a first client that supports PPPoE, wherein the first frame is intended for receipt by an access concentrator, receiving, at the bridge, a second frame having a non-PPPoE format from a second client that does not support PPPoE, wherein the second frame is intended for receipt by the same access concentrator, providing, from the bridge, the first frame directly to an interface for output to an access concentrator without bridge protocol conversion, providing, from the bridge, the

second frame as an IP packet to an IP stack, routing the IP packet to a PPPoE stack,
encapsulating, at the PPPoE stack, the IP packet into a third frame having a PPPoE format,
and providing the third frame to the interface for output to an access concentrator, as recited
in amended claim 22.

The Lo application describes a system for permitting communication between multiple devices having different network protocols and for permitting a private network device to conduct a direct PPPoE session without restricting other devices on the private network from using another IP address. The system is based on a gateway device (i.e., router, access point) that translates and routes data packets between devices of different network protocols by referring to a table of device addresses and physical port information. An table entry is created for a device the first time it sends a packet over the network.

Thus, in one embodiment of the invention described in the Lo application, simple conversion is performed. In this embodiment, a packet sent from a device is received at the gateway device. The gateway device determines the port of the destination device by referring to a media access control (MAC) table, and then the gateway device converts the packet to the port type of the destination device. In another embodiment, the gateway device permits one client on the private network to engage in a PPPoE session with a broadband access concentrator without preventing other devices on the private network from accessing the Internet. When the gateway device receives packets from the broadband link, if they are PPPoE they are sent to the PPPoE device. Otherwise, they are sent to the other device indicated by the MAC table.

Nowhere in the Lo patent is their disclosure or even suggestion of allowing non-PPPoE enabled devices and PPPoE devices to operate on the same gateway whereby the non-

PPPoE enabled devices are able to establish a PPPoE session with the access concentrator while allowing PPPoE enabled device to operate normally as in the systems and methods of the instant application. Thus, the Lo patent does not teach converting non-PPPoE frame into PPPoE frames at the gateway before forwarding to the access concentrator when non-PPPoE frames are received and directly forwarding PPPoE frames from the gateway to the access concentrator when PPPoE frames are received.

The Ortega patent describes a system in which PPPoE enabled devices are able to communicate with service endpoints using PPPoE where terminating equipment at those service endpoints don't support PPPoE services. Thus, all PPPoE services are provided by the modem that acts as a proxy for the service endpoint. Packets received from a PPPoE enabled client are converted at the modem before being transmitted to the service endpoint. However, nowhere does the Ortega patent describe processing frames differently at the gateway depending upon whether the frames are PPPoE frames or not and if not, converting them to PPPoE frame so that a non-PPPoE enabled device can communicate with the service endpoint using PPPoE, and PPPoE enabled devices are unaffected.

In view of this distinction between the applied references taken separately or in combination with one another, Applicants respectfully submit that independent claims 1, 12 and 22 are patentable. The remaining dependent claims 2-11, 13-21 and 25-29 are likewise patentable over the combination of applied references for at least the same reasons as claims 1, 12 and 22 and discussed above. Accordingly, Applicants respectfully request that the rejection of claims 1-22 and 25-29 be withdrawn.

III. Conclusion

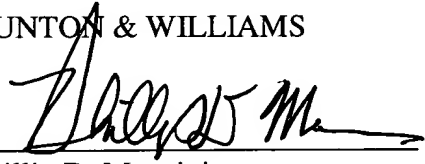
Favorable reconsideration and prompt allowance of the claims are earnestly solicited. Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Applicants believe that no charges are due in connection with this amendment. However, in the event Patent Office charges are due, please charge the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

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